

UNITED STATES PACIFIC FLEET
AIR FORCE
AIR GROUP TWELVE

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CONFIDENTIAL

Fleet Post Office,
San Francisco, California.
6 June 1945.

COMMENTS AND RECOMMENDATIONS OF
COMMANDER, AIR GROUP TWELVE

ON OPERATIONS FROM 5 APRIL TO 31 MAY 1945

Carrier Air Group TWELVE operated from 8 April to 29 May in a continuous combat condition which was broken only by refueling days (every 4 or 5 days), some strikes even being flown on those alleged rest days. During this time, the Group conducted air-support flights to Okinawa; strikes and sweeps on Ie Shima, Tokuna, Amami O'Shima, Kikai, Minami Daito Jima, and last but not least Kyushu; target caps over Okinawa and adjacent points, Tokuna, Amami, and Kikai; and of course DCAPS and NCAPS over our own force.

During this entire period the morale and the availability of the pilots were very high. It may be said, however, that all hands were more than ready for that pause that refreshes when we departed for our replenishment period.

1. AIR SUPPORT MISSIONS

These missions are considered, in general, to have been conducted in a very smooth and satisfactory manner. Air Support personnel seem to be keenly appreciative of the abilities and limitations of support planes, which fact is the very life and essence of efficient air support.

In the early stages of Okinawa operations CASCU had some groups dropping their entire load, even mixed armament, on a target in a single pass, thus inevitably wasting, or not using to best advantage, a considerable percentage of those much-needed bombs carried all the way in from our carriers. Later, however, when disposition of load and number of passes was left to the strike leader, it made for a more efficient and economical sowing (and reaping) of these loads.

The Air Coordinator, or Strike Leader, should have rockets equipped with colored smoke bursts to more positively pin-point important targets.

Some support groups were in excess in the early stages of Okinawa operations and were told to hit targets of opportunity south of a certain line. As a result, some targets were hit time and time again while other obscure but important installations were ignored. CASCU should have enough people and facilities to coordinate as many missions as CV Task Groups are ordered to provide.

2. COMBAT AIR PATROLS

The standard of fighter direction in the carriers was found to be higher than that of fighter direction in pickets around Okinawa. The latter group did not keep their circuits 'cleaned-up' and indeed served to clutter the circuits at times by their own unnecessary transmissions. It is true that there were too many outfits

VSS RANDOLPH
CV-15

working on one channel, and in some cases the F.D.O. had to compete with a tower control or Air Support Group on his circuit. Channel #4 William was found on several days to be jammed beyond usefulness without a single bogey in the air. Radio discipline is a MUST on CAP and should be enforced by very stern disciplinary measures.

All teams should be thoroughly instructed in the technique of keeping a proper station at high altitudes when they cannot sight the surface group from the top of an overcast and there is a strong wind blowing. Some teams have found themselves 80 to 100 miles from the surface group when they let down to return to base. Proper use of the ZB and an accurate estimation of the force and direction of the wind makes station-keeping relatively easy at 25,000 feet, even on top of a 10/10 blanket.

3. STRIKES AND SWEEPS

It is believed that a greater effort should be made to keep groups right up-to-the-minute on targets they may possibly hit. In many cases, strike groups were left to their own devices in selecting targets in a target area which had been hit by other groups. A daily photo coverage or other currently accurate information distributed to the potential strike groups would permit better target selection, better advance planning of attacks, and would prevent or reduce unproductive attacks. Where practicable, one group should be assigned to reduce a certain target area until it is deemed a Class "B" target, when it could be used by any or all for targets of opportunity.

An extensive indoctrination in recognition and evaluation of enemy ground targets should be carried out in operational training and Air Group forming periods. There are too many cases of pilots having to rely on PPI personnel telling them what was in the target area after film or prints of the attack are examined.

The use of Napalm in suspicious-looking wooded areas should be exploited more fully. It is invaluable to denude these areas early in the attack schedule in order to reveal covered revetments, dispersed planes, gun positions, and other concealed targets.

4. USE OF WARDROOM AS READY ROOM

The absolute imperativeness of using the Wardroom exclusively for flight operations in the combat area has been proven beyond a shadow of a doubt. This Air Group, after long usage, has found it satisfactory in all respects and not inconvenient. It has been especially conducive to good briefing and planning of coordinated group missions. Having the pilots of all squadrons in one large room has many advantages. It has, among other things, developed an air of camaraderie and a closer feeling between squadrons generally not as apparent when they are in separate ready rooms.

This ship has a large, complete flight-data board, on the after bulkhead of the central wardroom space. This board is kept up to date by a man who is equipped with a 2JG outfit, which is connected with all necessary stations - Air Plot, Primary Fly, Aircraft Control, and Combat. Other means of communication are the 19MC squawk-box and, of course, the telephone.

The ACI Officers are housed temporarily during combat operations in either the Flag office or part of the Gunnery office, together with the Photo Interpreters, and all briefing and interrogation is carried on beneath the armored deck, allowing all hands greater peace of mind and, more important, permitting uninterrupted preparation for succeeding flights even though the ship is under attack.

Flight gear is kept on hooks provided in the passageways adjacent to the Wardroom.

It is recommended that future CV's be designed with a single, large air-conditioned ready room beneath the armored hangar deck with easy access to and from the flight deck under Condition ZEBRA.

5. MARK-23 GUNSIGHT

Detailed maintenance problems and combat evaluation are discussed in two letters, Commander Air Group TWELVE F41, Serial 0620, dated 29 May 1945, and Commanding Officer, Fighting Squadron TWELVE letter F41, Serial 0323, dated 31 May 1945. Maintenance problems thus far are negligible.

This sight has not had a fair trial since most of this Group's work has been against ground targets, and the air-to-air firing has largely been of a high speed tail-chase nature. The Mark-23 Sight would undoubtedly be excellent against aircraft not very maneuverable, but the computing feature is too difficult to use in average dogfighting. A survey of fighter pilots in this Group discloses that only a small majority prefer the computing sight. The old timers, by and large, still like the Mark-8 Sight best.

6. RADIO-RADAR

During this period communications were confined almost exclusively to VHF. Except for Air-Sea Rescue transmissions, only two instances occurred in which MHF was used, and this was due to VHF failure in the Strike Leader's aircraft. The AN/ARC-1 transmitter-receiver was found to be far superior in performance and ability to previous equipment of its kind. Due to diligent maintenance on the part of ground personnel, comparatively few actual failures in the air were encountered.

Due to the tactical situation and type of flight operations involved, the employment of radar was limited to use as a navigational aid, for which it was found extremely helpful. During strike operations only two sets of AN/APS-4 radar were carried, one to aid navigation and the other to act as a standby. Excellent results were observed on all occasions. The ASB-7B radar is a considerable improvement over others of its kind, but its use was likewise confined to navigation.

Perhaps the most valuable equipment carried by carrier aircraft is the AN/ARR-2 homing equipment. Excellent results were obtained with this receiver throughout the entire period of operations. Meticulous care should be taken in the maintenance of this equipment in all aircraft.

Little trouble was encountered with IFF failure. Frequent and regular checks with portable test equipment, both before take-off and after landing, resulted in excellent airborne operation.

Only on two occasions during this period was it found necessary to drop window. These occurred during the strikes on Kyushu on 13 and 14 May. In all cases it is believed to have proved successful in disconcerting enemy fire control radar, as anti-aircraft fire became erratic each time window was released.

Information gathered on night fighter operations may indicate that certain types of Japanese aircraft are equipped with tailwarning radar or some similar device. On several occasions, VF(N) pilots have reported window being dropped by the enemy upon closing to within 3/4 mile. The distance was the same in each report, and, it being a dark night on each occasion, visual contact was highly improbable. Indications show that the window used was probably cut to near the wave length of the AN/APS-6 equipment, since the screen became very cluttered in each instance. One occasion occurred in which each time a vector was given by the FDO, the bogey would dive immediately and orbit close to the water. This might possibly indicate monitoring of VHF equipment.

In this Air Group, only the VB squadron is equipped with AN/APS-4 radar, the allowance being one set for each plane. Only two sets were ever carried by our strike groups and this was found to be adequate. Beyond the necessity for carrying one or two sets in a VB strike group, there is a possible additional need for sets in VB anti-sub planes, but certainly there is no need at present in having one set for each VB plane. Even when radar bombing is necessary, the VB planes do not all use their individual radar sets as would TBM's on torpedo runs. Their bombing is governed by the bombing of the lead plane. The fact that SB2C's must sacrifice an external bomb rack to carry this set and the fact that radar gear storage space aboard ship is a real problem are also factors in warranting the recommendation that VB squadron allowance of these sets be reduced by half. This does not apply to the VT squadron, however, for the addition of the AN/APS-4 to the TBM's does not affect bomb load. Only four TBM-3E airplanes have been delivered to this group thus far, and as yet there has been no real opportunity to test tactical advantages.

With the weather conditions, frequent overcast, etc., in the present important operational areas, the need for radar bombing can arise at any time. It is recommended that suitable bombing charts for use with the AN/APS-4 radar, covering altitudes up to 20,000 feet, be devised and distributed to all squadrons.

7. ANTI-G SUITS

The "Zoot-suit" has proven to be a very valuable addition to the VF pilot's flight gear. It has given him another advantage over the enemy and has performed well. Its rate of attrition is hardly more than any orthodox flight suit and the suit is very comfortable. It is well tailored and is replete with really functional pockets. Survey shows that it raises the anti-blackout resistance of an average pilot about 2 or 3 G's.

The only recommendation for improvement proposed by this Group is a change from the highly-inflammable nylon cloth used in its construction to a material with fire-resistant qualities.

8. MISCELLANY


It is recommended that every effort be made to cover all possible exigencies by standard Squadron, Group, and Ship doctrine - it will save a lot of trouble and chatter in the air.

The checking of microphone buttons should be emphasized to the point of becoming second nature in order to prevent its causing frequent circuit jamming.

Intelligent attack, deployment and flak analysis will substantially cut down losses to AA.

Guns and prop controls must be exercised occasionally at high altitudes to prevent them becoming inoperational.

Pilot physical condition is very important, especially in sustained operations like the last two months. Relaxing games, steam baths, and rubdowns in spare time should be encouraged at every opportunity. The conditioning program and facilities aboard this ship have produced excellent results.


E. J. PAWKA,
Lt. Comdr., USNR.

BOMBING SQUADRON TWELVE

ACA-I REPORTS

(5 April - 31 May 1945)

UNITED STATES PACIFIC FLEET

AIR FORCE

IN REPLY REFER TO

BOMBING SQUADRON TWELVE

COMMENTS AND RECOMMENDATIONS OF COMMANDING
OFFICER - BOMBING SQUADRON TWELVE
ACTIONS - 5 APRIL - 31 MAY 1945

c/o Fleet Post Office
San Francisco, Calif.

I - Air Support - OKinawa

- A. It is recommended that long delay fusing be used whenever the AA fire is such as to permit a low pull out or whenever the ceiling is such as to make low level glide bombing attack necessary.
- B. It is believed that colored smoke rockets fired by the Air Coordinator to mark targets would be superior to the practice of using white phosphorous mortar shells since the trajectory and point of impact could be more readily seen. Also, the enemy has frequently used white phosphorous shells to confuse the pilots as to the exact location of the target.
- C. This squadron is of the opinion that it is desirable to include more detail in the target maps. It is often difficult to locate targets unless considerable detail is shown, especially where there is no coastline or outstanding topographical features to use as reference points.
- D. It is believed that greater emphasis should be placed, during the squadrons training period, on the study of tactics employed by Japanese ground troops and on the recognition and evaluation of enemy targets and mobile equipment as observed from the air. A more thorough understanding of this would appreciably assist in the recognition of targets. A greater number of simulated air support missions during the training period would also be desirable.

II - Strikes, Kyushu, Japan.

- A. The regular 58 gallon wing tank was used on strikes against the west coast of Kyushu. These long range strikes of 225 miles radius cut down our striking power and deprived us of the ASH radar. It is felt that an increase in the internal fuel capacity and a better arrangement of bomb loads within the bomb bay would materially improve the striking power of the SB2C type plane.

J. F. GUYON,
Lieut., USNR
Commanding,

AIRCRAFT ACTION REPORT

RESTRICTED
 (Reclassify when filled out)

(OMIT THIS SHEET IF NO ATTACK WAS MADE)

REPORT No. 8

XI. ATTACK ON ENEMY SHIPS OR GROUND OBJECTIVES (By Own Aircraft Listed in II Only).

(a) Target(s) and Location(s) Buildings at Sub. base (b) Time Over Target (s) 1020 (Local) (Zone)

(c) Clouds Over Target None (BASE IN FEET, TYPE AND TENTHS OF COVER)

(d) Visibility of Target Clear (e) Visibility 20 (MILES)

(f) Bombing Tactics: Type Dive Bomb Sight Used MK VIII

Bombs Dropped per Run Salvo Spacing None Altitude of Bomb Release 2500

(g) Number of Enemy Aircraft Hit on Ground: Destroyed None Probably Destroyed _____ Damaged _____

(h) AIMING POINT	(i) DIMENSIONS OR TONNAGE	(j) NO A/C ATTACKING (k) SQUADRON	(l) BOMBS AND AMMUNITION EXPENDED, EACH AIMING POINT	(m) NO HITS On Aiming Point	(n) DAMAGE (None, slight, serious, destroyed or sunk)
1 Group of Buildings 300 Feet inland from pier.		6 VB-12	12 - 500 lb. bombs 4 - 250 lb. bombs 20 - Rockets	14 20	Serious "
3					
4					
5					
6					
7					
8					

(o) RESULTS: (For all hits claimed on ship targets and for land targets of special interest, draw diagram, top or side view or both, as appropriate, showing type and location of hits. For all targets give location and effect of hits, and identify by numbers above. Use additional sheets if necessary).

Of the total bomb and rocket load carried on this mission, four rockets failed to fire and were brought back to base. Two 250 lb. bombs hung up and were later jettisoned. One 500 lb. bomb and one 250 lb. bomb fell in the water short of the target while eleven 500 lb. bombs, three 250 lb. bombs, and twenty rockets landed in the group of buildings three hundred feet inland from the pier. The first two bombs landing in the target area struck a building; the point of contact of the others was not observed, but all were seen to fall in the building area.

(p) Were Photographs Taken? Yes Photographs of Damage, When Taken, Should Be Attached By Staple.

AIRCRAFT ACTION REPORT

RESTRICTED
(Reclassify when
filled out)

REPORT No. 8

XII. TACTICAL AND OPERATIONAL DATA. (Narrative and comment. Describe action fully and comment freely, following applicable items in check list at left. Use additional sheets if necessary.)

ENGAGEMENT WITH ENEMY

OWN AIRCRAFT

Disposition
Altitudes
Speeds
Approach Tactics
Use of Cover, Deception
Angles of Attack and
Their Effectiveness
Distance of Opening Fire
Defense Tactics and
Their Effectiveness

ENEMY AIRCRAFT

Method of Locating, Distance
Disposition
Altitudes
Speeds
Approach Tactics
Use of Cover, Deception
Angles of Attack
Distance of Opening Fire
Defensive Tactics

COMMENTS AND RECOMMENDATIONS

Own Weaknesses
Enemy Weaknesses
Offensive Tactics, Own
" " , Enemy
Defensive Tactics, Own
" " , Enemy
Flexible Gunnery, Own
Escort Tactics
Fighter Direction
Use of Radar
Night Fighting
Recognition, Aircraft

ATTACK

OWN TACTICS

Method of Locating Target
Approach to Target
Altitudes, Speeds
Approach
Dive
Pull-Out
Dive Angle
Strafing
Retirement
Defensive Tactics
Use of Jamming

DEFENSE, ENEMY

Evasive Tactics, Ships
Concealment
Searchlights
Night Fighter Tactics
Use of Jamming

COMMENTS AND RECOMMENDATIONS

Bombing Tactics
Torpedo Tactics
Effectiveness of
Bombs, Torpedoes
Selection of Targets
Fuzing
Strafing Tactics
Defensive Tactics
Use of Radar
Reconnaissance
Photography
Briefing

OPERATIONAL

Navigation
Homing
Rendezvous
Recognition, Ships
Communications
Flight Operations
Search and Tracking
Base Operations
Maintenance

Two recent modifications of this squadron's aircraft again proved their worth on this attack. One is a change in the rocket distribution box, allowing the dropping of both rockets and bombs in the same dive and from the same switch. By merely clicking the bomb release button, either two or three times, depending on the bomb load. The other is an arrangement permitting the use of the dive flaps only. This allows the firing of rockets in a steep dive and also improves the plane's bombing accuracy and diving characteristics.

AIRCRAFT ACTION REPORT

RESTRICTED
(Reclassify when
filled out)

REPORT No. 8

XIII. MATERIAL DATA. (Comment freely on performance or suitability, following check list at left.
Use additional sheets if necessary).

ARMAMENT

- Guns, Gunsights
- Turrets
- Ammunition
- Bombs, Torpedoes
- Bomb Sights
- Bomb Releases

COMMUNICATIONS

- Radio, Radar
- Homing Devices
- Visual Signals
- Codes, Ciphers

RECOGNITION

- IFF
- Signals
- Battle Lights
- Procedures

PROTECTION

- Armor; Points and Angles
of Fire Needing Further
Protection
- Leak Proofing

EMERGENCY EQUIPMENT

- Parachutes
- Life Belts, Life Rafts
- Safety Belts
- Emergency Kits
- Rations, First Aid

NAVIGATIONAL EQUIPMENT

- Compasses
- Driftsights
- Octants
- Automatic Pilots
- Charts
- Field Lighting

INSTRUMENTS

- Flight
- Power Plant

OXYGEN SYSTEM

**CAMOUFLAGE AND
DECEPTION DEVICES**

STRUCTURE

- Airframe
- Control Surfaces
- Control System
- Dive Flaps
- Landing Gear
- Heating System
- Flight Characteristics
At Various Loadings

POWER PLANT

- Engines
- Engine Accessories
- Propellers
- Lubricating System
- Starters
- Exhaust Dampers

HYDRAULIC SYSTEM

ELECTRICAL SYSTEM

- Auxiliary Plant
- Lights

FUEL SYSTEM

FLIGHT CLOTHING

MAINTENANCE

BASE FACILITIES

- Plane Servicing Equipment
- Personnel Facilities

This unit of the VB Squadron, in company with an eight plane fighter escort, took off at 0845 (local time) and proceeded to Kakeroma Shima. The initial approach was from the south to a point midway along the eastern coast of Kakeroma, then on a bearing of 240 degrees to the suspected midget submarine base on the peninsula at the southeast end of Satsupawa-Wan. When in the vicinity of the target, they were opposed by a moderate amount of heavy A.A. fire, which was accurate as to altitude, but due to the tactics employed in breaking off around the cone, the bursts were mostly behind the planes.

The attack was made from the northeast at an altitude of ten thousand feet, breaking down and out of a left turn. The rockets were fired at five thousand feet, and the bombs released at twenty-five hundred feet. Retirement was effected across the island to the rendezvous point, ten miles bearing 250 degrees from the target. High speed and "jinking" tactics were employed on retirement in order to avoid A.A. fire. Upon arriving at the rendezvous point, one of the VB planes was directed by the unit leader to drop a life raft to a VF escort pilot, who was in the water off the west coast of Kakeroma. After dropping the raft, the pilot orbited over the down flyer until relieved by the Dumbo plane. He then rejoined the other planes in the flight, and the unit returned to base.

REPORT PREPARED BY:

APPROVED BY:

Victor F. Tucker, Lieut., USNR

SIGNATURE

AGI Officer

J. F. GUYON, Lieut., USNR

SIGNATURE

Commanding Officer.

4-18-45

DATE